

Element Four leverages Veeam and Azure to provide a secure and reliable Backup Solution that reduces operating costs.





Company:

Birmingham Water Works Board (BWWB), is a metropolitan water service utility that serves 600,000 people in five counties of Alabama.



Challenge:

BWWB understood that to keep up with today's rapid pace of technological innovation they needed to retire the agent-based backup product that they were using and adopt a backup solution that is built for the future.



The Solution:

Element Four's design utilizes Veeam backup and replication to centralize all backups to the Cisco UCS appliance at BWWB's data center. BWWB is now able to back up their entire 65 TB production environment multiple times a day within their required RPO.

The Business

Birmingham Water Works Board (BWWB), is a metropolitan water service utility that serves 600,000 people in five counties of Alabama. It is the largest water system in the state and one of the largest in the nation. BWWB ensures the availability of water to every home, school, and business within its service area.

Every day, thousands of Birmingham citizens access BWWB's systems to open accounts, make payments and check the status of their water service. These citizens trust BWWB with keeping the personal and private information they share during transactions safe and secure. In addition, consumers expect availability 24 hours a day, 365 days a year and have no patience for sluggish websites or "error" screens.

The Challenge

BWWB understood that in order to keep up with today's rapid pace of technological innovation they needed to retire the agent-based backup product that they were using and adopt a backup solution that is built for the future.

BWWB has 65TB of source data spread across hundreds of virtual servers—a sizable amount of data that grows larger every day. The agent-based backup product that BWWB had been utilizing was unable to meet their expected RPO, with some production systems only being backed up once a week.

BWWB's agent-based backup solution was also difficult to manage. Due to limitations within the existing system, BWWB's team of engineers had to rely on external script-based operations that needed to be run manually in order to fully protect their data. This manual process was difficult to maintain on a regular basis because of the considerable time and effort required. In addition, a robotic tape library was being used to facilitate offsite backups—another labor-intensive process that occupied the valuable time of BWWB's engineers

Furthermore, the length of time that the agent-based backup product was taking to backup virtual systems was causing a strain on BWWB's virtual machines. Whenever the backup application was running, consumers that were trying to access BWWB's website noticed significant slowdowns.

To address these problems, BWWB decided that their best course of action was to implement a backup solution that provides for reliable, scalable, and cost-effective backups at their location and to the Azure Cloud.

Following a rigorous RFP process, BWWB announced that they would be partnering with Element Four on the project due to the comprehensive and cost-effective solution that Element Four submitted.

Element Four's Solution



The Result:

The result was a monthly operating expense that came in 40% lower than other proposed solutions.



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In order to streamline BWWB's backup process, Element Four used a Cisco C240 backup appliance and implemented it with native connectivity to their hypervisor and storage network.

Element Four's design utilizes Veeam backup and replication to centralize all backups to the Cisco UCS appliance at BWWB's data center. From the data center, copy jobs are then sent to the Microsoft Azure Cloud. Local backups allow for rapid file and server recovery while Azure cloud copies allow for files and servers to be restored in the event of a disaster.

BWWB is now able to back up their entire 65TB production environment multiple times a day within their required recovery point objective (RPO). Element Four's solution eliminated BWWB's need for manual job execution and for an offsite tape library and helped them align with industry standards.

In addition, Element Four implemented periodic database transaction log backups in Veeam. This allows BWWB's database systems to be recovered to the exact point in time needed in order to minimize data loss.

Element Four now manages and monitors onsite and offsite backups to reduce the burden on BWWB's IT staff. Element Four's experienced team of engineers ensure that backups are completed successfully each day.

To address the performance of BWWB's Virtual Machines, Element Four leveraged Veeam's Storage Snapshot Integration with BWWB's existing HP 3Par SAN. This drastically reduced snapshot duration and put less strain on their systems. As a result, end users no longer experience slowdowns during backup activities.

The Results

As with most public works organizations, the Element Four team had to work within a strict budget. Element Four was able to assist BWWB and avoid a large capital expenditure by providing one monthly price for the BaaS which included the Cisco UCS appliance and Veeam licensing. The result was a monthly operating expense that came in 40% lower than other proposed solutions. Additionally, BWWB is able to back up their entire production environment multiple times a day allowing them to meet their defined recovery point objectives. BWWB's end users also have an improved experience when making transactions because the performance of BWWB's VMs are no longer affected by a legacy backup operation.

Key technologies leveraged:

- VMware vSphere
- Veeam Availability Suite
- Cisco UCS C240 Server
- Azure
- Veeam Storage Snapshot integration for HP 3Par

Key services offered:

- Backup as a Service
- Enterprise Consulting